1. Introduction

1.1 Identification

This ECS Release B Subdocument (305-CD-020-002) for the ECS Project, Contract Data Requirement List (CDRL) Item 046 with requirements specified in Data Item Description (DID) 305/DV3 is a required deliverable under the Earth Observing System Data and Information (EOSDIS) Core System (ECS), Contract NAS5-60000.

1.2 Scope

The Release B Design Specification (DID 305/DV3) provides integrated design information of the Science Data Processing Segment (SDPS) and Communications and Systems Management Segment (CSMS) for Release B. It should be noted that the Flight Operations Segment (FOS) has provided its detailed design material for the FOS CDR in separate documents.

The Release B design information is presented in a series of subdocuments due to the volume of material provided. This subdocument presents an overview of the detailed design for the SDPS and CSMS. It provides an overview of the Release B mission requirements and defines the SDPS and CSMS Computer Software and Hardware Configuration Items (CI), as well as the architectural design.

This document reflects the February 14, 1996 Technical Baseline (210-TP-001-006) maintained by the ECS Configuration Control Board in accordance with ECS Technical Direction No. 11 dated December 6, 1994.

The remaining subdocuments are:

305-CD-021-002	Release B SDPS Client Subsystem Design Specification
305-CD-022-002	Release B SDPS Interoperability Subsystem Design Specification
305-CD-023-002	Release B SDPS Data Management Subsystem Design Specification
305-CD-024-002	Release B SDPS Data Server Subsystem Design Specification
305-CD-025-002	Release B SDPS Ingest Subsystem Design Specification
305-CD-026-002	Release B SDPS Planning Subsystem Design Specification
305-CD-027-002	Release B SDPS Data Processing Subsystem Design Specification
305-CD-028-002	Release B CSMS Communications Subsystem Design Specification
305-CD-029-002	Release B CSMS Systems Management Subsystem Design Specification
305-CD-030-002	Release B GSFC DAAC Implementation
305-CD-031-002	Release B LaRC DAAC Implementation
305-CD-033-002	Release B EDC DAAC Implementation
305-CD-034-002	Release B ASF DAAC Implementation
305-CD-035-002	Release B NSIDC DAAC Implementation

305-CD-036-002	Release B JPL DAAC Implementation
305-CD-037-002	Release B ORNL DAAC Implementation
305-CD-038-002	Release B System Monitoring and Coordination Center Implementation
305-CD-039-002	Release B Data Dictionary for Subsystem Design Specifications of the ECS Project

The CSMS material provided herein includes design material for CSMS to support SMC and DAAC capabilities. This includes all services provided to Release B SDPS as well as services that are common to FOS and SDPS. CSMS services that are unique to FOS were presented in the FOS detailed design document (DID 305-CD-040-001).

1.3 Purpose

This subdocument, Release B Overview of the SDPS/CSMS Segment System Design Specification for the ECS Project, supplies a basic overview for both the SDPS and CSMS segments of the ECS project. It details the Release B components and the interactions of those components each other and with other EOSDIS components, and discusses their relationship with external entities. It describes basic factors in development of these components, and prepares the reader for the more detailed analyses of subsystem designs in the in-depth series of subdocuments that follow.

This document is intended to be read by all parties interested in the Release B design. For the casual reviewer this document provides a good understanding of the ECS and Release B design. For those interested in an in-depth understanding of the design this subdocument provides an integrated view of the subsystems as well as certain design concepts that span subsystems. It provides the context necessary for understanding of the subsequent subdocuments.

1.4 Status and Schedule

This submittal of DID 305/DV3 meets the milestone specified in the Contract Data Requirements List (CDRL) of NASA contract NAS5-60000. An earlier submittal was delivered for Release A. This submittal reflects changes to the design necessary to support Release B requirements, as well as enhancements which resulted from reviews of the Release A design.

1.5 Organization

This subdocument is organized as follows:

- Section 1 provides information regarding the identification, scope, purpose, status, and organization of the overall Release B SDPS/CSMS design document set as well as this subdocument.

- Section 2 provides a listing of related documents, which were used as source information for this subdocument.

- Section 3 provides an overview of the Release B objectives, requirements and design drivers. It also introduces various techniques used in the design to meet the objectives, requirements and design drivers.

- Section 4 provides an overview Release B Architecture. The overall ECS architecture is presented and the external and cross site interfaces are discussed. The architecture is then decomposed and the Release B segments and subsystems are discussed.

- Section 5 provides and overview Release B design components. The Release B architecture is decomposed into software, hardware, and LAN components. These components and their role in the ECS design are presented. It also includes some of the changes and enhancements to the Release A design planned for implementation in Release B.

- Section 6 describes several design concepts that span multiple subsystems. This material is further discussed in the respective subsystem documents.

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